

FIRM CHARACTERISTICS AND SOCIAL SUSTAINABILITY DISCLOSURE AMONG MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

Social sustainability disclosure is crucial for ensuring corporate transparency, building stakeholder trust, and improving financial performance. Evidence from literature showed that Poor or non-existent social sustainability disclosure in manufacturing companies poses significant risks, ranging from immediate reputational damage to long-term financial decline and loss of the "social license to operate. Research has further shown that not many manufacturing companies have integrated firm characteristics in their operations. The study therefore, examined the effect of firm characteristics on social sustainability disclosure among listed manufacturing firms in Nigeria. The population of the study consisted of 51 listed manufacturing companies in the Nigerian Exchange Group (NGX) and a sample of 36 companies that have consistently published their annual audited financial report and accounts for the period of 2014 to 2023 were used. The data collected were secondary and analyzed using descriptive statistics, correlation analysis, binary logistic regression and multiple regressions technique. The regression results showed that firm size had a positive and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05, firm profitability had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05, firm leverage had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05 and firm growth had a positive and an insignificant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value > 0.05. The study concluded that firm characteristics enhanced social sustainability disclosure in listed manufacturing companies in Nigeria. The study recommended that stakeholders of listed manufacturing companies in Nigeria should continue to expand the size of the firm in order to increase the level of sustainability disclosure.

Keywords: Firm growth, Firm leverage, Firm profitability, Firm size, Social sustainability reporting.

1. Introduction

Accounting and environmental scholars stress the global awareness of accounting disclosure of sustainability information. Social sustainability disclosure has been widely acknowledged by scholars in both developed and developing economies in the promotion of accountability and transparency (Ikpor *et al.*, 2022). Social sustainability disclosure is seen as an accounting language based on ethics and principles that enable the accountant to report social and environmental events in the audited financial statements of companies. Dunbar *et al.* (2021) argue that improving standardisation to maximise corporate organisations' effectiveness is a core value of disclosing sustainability accounting information. Antonini *et al.* (2020) argue that the

consequences and implications of sustainability in social, economic, environmental and political domains have gained substantial recognition in prior research.

Social sustainability disclosure of accounting information relating to the environment is vital for stakeholders to make better decisions. The disclosure of sustainability information in the financial report of a manufacturing company is the process of creating long-term value, company reputation, corporate success, and accountability. Companies' disclosure practices of sustainability reporting vary from company to company and industry to industry (Ikpor *et al.*, 2022). The motivation for disclosure could be perceived as a purely endogenous function of a company's evaluation of the cost-benefits of such disclosure and other associated firm-specific factors such as the size of the firm, foreign subsidiary, degree of leverage, liquidity, institutional ownership, firm profitability, and firm age among others (Masum *et al.*, 2020).

Olagunju, *et al.*, (2023) stressed that the presence of weak corporate practice among listed manufacturing companies may results to various challenges, including environmental degradation, social inequality, and economic disparities. Companies began to voluntarily disclose sustainability performance data in response to growing pressure from stakeholders and increasing awareness of environmental risks. Meanwhile, the lack of top level board commitment to sustainability practices result to weak disclosure and low level of accountability through inconsistent practices by board members.

It would be deduced from prior studies in Nigeria context that firm performance/profitability, firm size, ownership structure, firm leverage and firm age were mostly used firm characteristics variables (see Gimbason & Yahaya, 2024; Okoye *et al.*, 2024; Abdulsalam & Babangida, 2020; Abolarinwa *et al.*, 2020). Therefore, exploring the usage of firm size, firm profitability, firm leverage and firm growth justified the demonstration of the best firm characteristics attributes that would strongly influence social sustainability disclosure. Okoye *et al.* (2024) used firm performance, Abdulsalam and Babangida (2020) explored sales growth, leverage, firm size and firm profitability. A methodological gap was also identified from the prior research, where studies used OLS and multiple regressions techniques (e.g. Okoye *et al.* 2024; Gimbason and Yahay, 2024; Ilemena *et al.*, 2023; Ikpor *et al.*, 2022; Gold and Aifuwa, 2022; Atanda *et al.*, 2021; Sani and Mohammed, 2021; Iliemena *et al.*, 2020; Bolarinwa *et al.*, 2020). Notably, Binary Logistic Regression has not been applied to examine the effect of firm characteristics on social sustainability disclosure. However, the rationale/justification for adopting Binary Logistic Regression in this study was based on the fact that the dependent variable was a dummy variable (social sustainability disclosure).

The study addressed the gap in existing literature regarding firm characteristics and social sustainability disclosures among listed manufacturing companies in Nigeria. It was deduced from precious research that various firm characteristics parameters had been explored in the area of the subject matter where much attention was not given to firm growth which accounting literature found to be relevant in social sustainability disclosure. Therefore, this study focused on firm characteristics and social sustainability disclosure by using firm size, firm profitability, firm leverage and firm growth as variables of interest. The above-identified research problem necessitated the formation of the following research objectives and hypotheses.

The research objective of the study was to examine the firm characteristics on social sustainability disclosure among listed manufacturing companies in Nigeria. Therefore, the specific objectives were to:

- (i) Examine the effect of firm size on social sustainability disclosure among listed manufacturing firms in Nigeria.
- (ii) Assess the effect of firm profitability on social sustainability disclosure among listed manufacturing firms in Nigeria.
- (iii) Evaluate the effect of firm leverage on social sustainability disclosure among listed manufacturing firms in Nigeria.
- (iv) Ascertain the effect of firm growth on social sustainability disclosure among listed manufacturing firms in Nigeria.

Based on the research objectives, the following null hypotheses were formulated in the study:

- H₀₁: Firm size has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.
- H₀₂: Firm profitability has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.
- H₀₃: Firm leverage has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.
- H₀₄: Firm growth has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

2. Literature Review

2.1 Conceptual Review

2.1.1 Social Sustainability Disclosure

Sustainability studies are now focusing on topical issues that surround the strategic environment of an organisation. Ali *et al.* (2023) cited in Gimbason and Yahaya (2024) define disclosure of sustainability as a means of providing quantitative, descriptive, financial and non-financial information to stakeholders regarding the assessment of the economic, social and environmental significance impact on the economic decision making of firms. The disclosure of social sustainability in the financial statements of companies is within the purview of corporate social responsibility. In a nutshell, it is mandatory for all companies to report information concerning society, education, health, and economic agenda. Social sustainability can be mandatory or voluntary, depending on the regulations of the location where the company operates. Social sustainability can vary substantially between companies. Ghuslan and Saleh (2019) posit that disclosure is a concept that deals with rationalising the decision-making process and benefiting from the efficient use of resources and it serves as an advantage for investors, creditors, project management, and other beneficiaries.

Social sustainability disclosure is defined as the reporting of human welfare in the published financial reports of companies (Muslichah, 2020). The practice of transparency and disclosure in companies highlights the importance of corporate governance in contributing to corporate prosperity and social responsibility (Kocmanova

et al., 2011). Adekanmi *et al.* (2015) assert that social disclosure is a means of communicating the social and environmental effects of organisations' economic actions to the various stakeholders within society. Islam (2015) affirms that social disclosure is a set of organisational activities that deals with the measurement and analysis of the social performance of organisations and reporting of results to concerned groups, both within and outside the organisation.

2.1.2 Firm Characteristics

Firm characteristics are seen as firm attributes with distinct qualities and features that set corporate organisations apart from those of their competitors (Okenwa & Ogbodo, as cited in Tanko *et al.*, 2024). The firm characteristics that may influence sustainability disclosure, according to Wang (2017), are firm size, firm age, firm ownership, liquidity and capital intensity. The ownership structure is one of the firm characteristics that influence social sustainability disclosure (Park *et al.*, 2020). Haruna and Shenaaz (2022) establish that firm leverage is a firm characteristic that is a driver of sustainability reporting. In the view of Masum *et al.* (2020), firm-specific factors like size of the firm, foreign subsidiary, degree of leverage, liquidity, institutional ownership, firm profitability, and firm age, among others, are likely firm characteristics that are potent drivers of sustainability disclosure. The firm characteristics explored in this study were: firm size, firm profitability, firm leverage and firm growth.

2.1.3 Firm Size

Firm size served as an independent variable in this study, and it was measured by the logarithms of total assets. Firm size has been explored by extant literature as total assets, revenue, scale of operations and number of employees etc. Nashier and Gupta (2023) maintain that firm size is measured in accounting literature as the natural logarithm of total assets. Hussaini and Fadjarenie (2022) define firm size as the assessment of company size. The assumption is that a larger firm size may correspond to a higher expected agency problem that the firm is likely to face. Company size is one of the instruments of firm expansion which is geared towards having greater assets and capital invested. Shuaibu *et al.* (2019) argue that firm size cannot be over-emphasised in determining the value creation of the firm because bigger firms create more value than smaller firms. Companies might continue to expand the size of business operations in order to create value in terms of revenue, number of employees and size of facilities. Firm size is measured as the natural logarithm of total assets in accounting, auditing and management-related research fields (Ishaka, *et al.*, 2023). Firm size is seen as one of the varieties of information disclosed in the financial statements of business organisations that predicts the firm's quality of accounting information and value creation of business.

2.1.4 Firm Profitability

Firm profitability was used as an independent variable in this study, and it was measured by the ratio of profit after tax to total assets. Akhter *et al.* (2022) define firm profitability as the measurement of the difference between revenue collected and expenses incurred. Firm profitability is critical to a business because it allows the business to operate smoothly in a competitive environment, influence its performance, and contribute to economic development (Stevens *et al.*, 2018). Firm profitability is the

ability of corporate organisations to generate enough revenue in excess of operating expenses (Onyeka *et al.*, 2018). Firm profitability is synonymous with efficiency, and it is regarded as an index or measurement of efficiency as well as a guide for management in striving for greater efficiency (Brown *et al.*, 2019). Profitability is the degree of efficiency and effectiveness with which organisational objectives and goals are achieved. Chen (2020) defines firm profitability as a given investment's ability to earn a return on its use. Profitability demonstrates the results of business operations (Johnson & Smith, 2018). In the opinion of Alshatti (2015), firm profitability is the relationship between the cash earnings generated by the company and the investments that earned the excess returns or profit to the organisation.

2.1.5 Firm Leverage

Firm leverage was employed as an independent variable in this study and it was measured by the ratio of total debt to total assets. Okenwa and Ogbodo (2023) define firm leverage as the usage of assets and sources of funds supplied by corporate organisations on the basis of fixed costs in order to maximise profits for the shareholders. The leverage is often used to represent the proportionate relationship between debt and equity; in essence, it has been observed that it merely denotes the permanent long-term finances of a company, which includes long-term debt, common stock, preferred stock and retained earnings (Orlu *et al.*, 2022). Firms in developing countries may have less long-term debt than firms in developed countries simply because they have different characteristics, rather than necessarily implying a deficiency in the credit market. Ofulue *et al.* (2022) define firm leverage as the total sum of liability (debt) a corporate organisation utilises to support, finance as well sponsor corporate assets. The leverage is often used to represent the proportionate relationship between debt and equity, but it has been observed that it merely denotes the permanent long-term finances of a company which include long-term debt, common stock, preferred stock and retained earnings.

2.1.6 Firm Growth

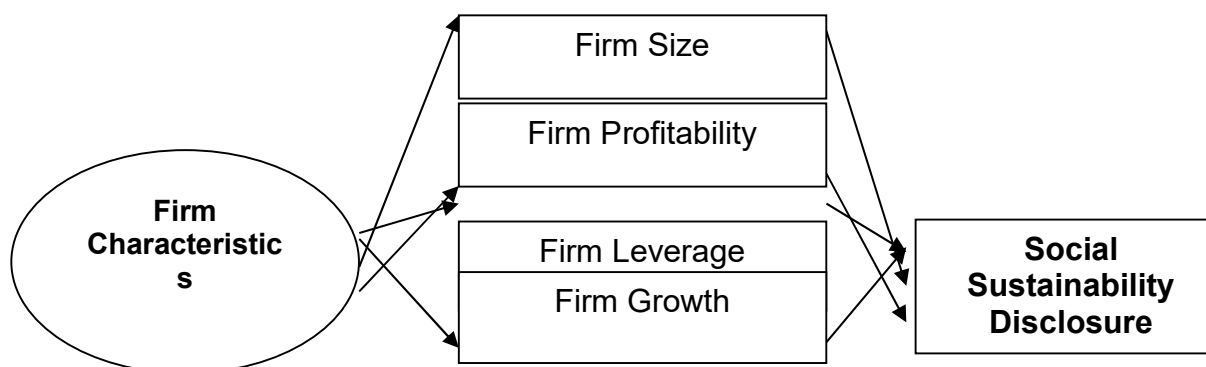
Firm growth was employed as an independent variable in this study, and it was measured by the percentage change in total sales. Investors and shareholders are often presented with new ventures as growth opportunities, but they face an underinvestment dilemma, leading them to forego investment projects with a direct net present value (Saraani & Shahadan, 2013). Chadha and Sharma (2015) submit that firms with high growth rates tend to finance their projects with less long-term debt in their capital structure and more short-term debt in order to minimise agency costs. Agency-cost problems in growing firms can be more severe due to needed flexibility in further investments. Westerlund and Leminen (2012) opine that firm growth strategy is likened to organisational objectives to expand the size of firms through economies of scale, activity volume, and turnover in terms of sales. Growth strategies of firms can be internal and external to a firm, which is a mechanism adopted to expand business operations through market penetration, diversifying products and stages of production, in addition to the existing business lines for market competitive advantage and sales revenue growth (Abolarinwa *et al.*, 2020). However, Piliang and Fathony (2020) suggest that growth opportunities serve as firms' performance significant determinants. Firms with growth opportunities can make profits from investments.

2.2 Theoretical Review

The underpinning theory of this study is the stakeholder theory. The theory is developed by Freeman (1984). This theory postulates that the stakeholders are interested with the operation social environment (constituents) in terms of sustainability disclosures.. The theory focuses on the benefit of various stakeholders such as management, relevant tax authorities, suppliers and customers of the firm. Fernández-Guadaño and Sarria-Pedroza (2018) opine that the Stakeholder Theory is regarded as a positive theory which sees corporate social responsibility as a concept that is used to understand and maximise the interest of stakeholders. The firm, itself, should be thought of as a grouping of stakeholders, and the purpose of the organisation should be to manage their interests, needs and viewpoints.

The signalling theory was developed by Spence (1973). The theory deals with the transmission of credible information relating to sustainability of accounting disclosure. The theory posits that firms use observable characteristics such as firm size, firm growth, and firm profitability to convey information to the market about firm quality, integrity, and future performance prospects. In contexts where internal firm actions are opaque to external investors, governance attributes act as signals that reduce uncertainty and influence investor perceptions.

Herbet and Harto (2022) stressed that the theory is permanence on early disclosure of accounting information whether good news or bad news on the part of the stakeholders. The effectiveness of such signals is contingent on their credibility and consistency with firm behaviour and performance. The relationship between firm characteristics and social sustainability disclosure is represented in the diagram below:



Source: Researchers' Conceptual Framework (2026)

2.3 Empirical Reviews

The empirical of this study is based on the research reviewed. Masila *et al.* (2024) examine the effect of firm characteristics on the relationship between corporate sustainability reporting and financial performance in Kenya. Ex-post facto research design was used to sample 49 out of 67 companies for the period of 2011 to 2020 while inferential and descriptive analysis were used to analyse the data. The results showed that firm size has a significant positive moderation effect on the relationship between corporate sustainability reporting and performance while firm age has a statistically negative moderation on the relationship between corporate sustainability reporting and

performance. Okoye *et al.* (2024) investigated the effect of sustainability disclosure on the financial performance of Brewery firms in Nigeria. They used ex-post facto research design to sample five (5) Brewery firms listed on the Nigeria Exchange Group (NGX) between 2013 to 2022 and used least square regression to analyse the data. The results showed that sustainability disclosure and performance had an insignificant relationship. Principale and Simone (2023) examined the determinants of TCFD reporting, using cross-sectional data on a sample of 122 firms in 2021. The panel regression results revealed that firm size and corporate board independence have a positive and significant impact on TCFD reporting. In Jordan, Abdullah *et al.* (2023) examined the impact of the board of directors' characteristics and ownership structure on sustainable development disclosure in banks listed on the Amman stock exchange. Pool regression analysis provided evidence that firm size and independent board have a significant impact on sustainability disclosure. Iliemena *et al.* (2023) conducted a research on the effect of sustainability reporting on gross profit margin (GPM) in Nigeria manufacturing sector. The study used an ex-post facto research design to collect data from 23 selected companies from the period of 2012 to 2021 while descriptive statistics and ordinary least square were employed in data analysis. The empirical results revealed that sustainability reporting exerts a significant positive effect on GPM.

Kwarteng *et al.* (2023) examined the influence of board mechanisms on sustainability accounting performance in 116 Sub-Saharan Africa companies, applying OLS regression. The result indicated that firm leverage and board independence have a positive but insignificant impact on sustainability accounting performance. Tatsuya (2022) studied the effects of corporate governance on ESG-related information disclosure in Japanese firms from 2011-2019. The logistic binary regression on a total of 19,548 observations indicated that firm leverage has a significant effect on ESG-related information disclosure. Abdulsalam and Babangida (2020) investigated the effect of sales and firm size on the sustainability reporting of oil and gas companies in Nigeria. They used a descriptive research design to sample 6 oil and gas firms in the Nigerian Exchange Group for the period of 2004 to 2018 and used panel regression techniques to analyse the data. The findings revealed that sales growth and leverage have a negative significant effect on sustainability reporting, while firm size and firm profitability have a positive and significant effect on sustainability reporting. Rafiki (2019) conducted an empirical study on the determinants of SME growth in Saudi Arabia. A survey research design was employed while the OLS regression technique was used to analyse the data. The regression result showed that organisation disclosure activities had a significant impact on the growth of firms. Wang (2017) conducted a study on the relationship between firm characteristics and disclosure of sustainability reporting in Taiwan. Secondary data were collected from listed companies in Taiwan for the period of 2010 to 2013. The logistic regression results showed that firm growth, board size, board independence, audit committee, ratio of export income, and foreign ownership, have a significant positive relationship with the disclosure of sustainability reporting.

3. Methodology

The ex-post facto research design was employed in this study to enables the researcher to collect, analyse and interpret data. The population of this research is made up of listed fifty-one (51) quoted manufacturing companies on the floor of the Nigerian Exchange Group (NGX) as at 31st December 2023. The sample size for this study was determined based on the consistency of delivering audited annual reports and accounts during the period under review. The Taro Yamane technique was adopted in sample size determination. The computation was based on the formula below.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Sample Size

N = Population

e = Margin of Error (5%)

Where:

$$\begin{aligned} n &= \frac{51}{1 + 51 (0.05)^2} \\ &= 45.23 \end{aligned}$$

From the computation, a sample size of 45 companies was initially adopted. However, for the purpose of the study and data availability, the sample size was reduced to 36 companies. This sample was selected from various sub-sectors (Agricultural, Consumer Goods, Health and Industrial Goods) in the domiciled sector of the study. The judgmental sampling technique was used, and filtering was employed to get the companies that satisfy the requirements for the sample size.

3.1 Model Specification and Measurement of Variables

The underpinning theory of the study is stakeholder theory which serves as the connection between firm characteristics and social sustainability disclosure, which was proposed by Freeman (1984). In specifying the model of this study, a binary logistic regression technique was adopted. The justification of this regression model is based on the fact that the dependent variable was a dummy. The model of the study was adapted from the model of Masum *et al* (2020), which is specified as follows:

$$VD_SCORE = \beta_0 + \beta_1 S_LEV + \beta_2 M_CAT + \beta_3 P_LIQ + \beta_4 G_BSIZE + e_t \dots\dots\dots (3.1)$$

Where;

VD_SCORE = Voluntary disclosure index

S_LEV = Firm leverage

M_CAT = Market category

P_LIQ = Firm liquidity

G_BSIZE = Board size

e_t = Error term

The regression model of Masum *et al* (2019) was modified by including firm growth and re-specified below.

$$SSD_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 FPRT_{it} + \beta_3 FLEV_{it} + \beta_4 FGRT_{it} + e_t \dots\dots\dots (3.1)$$

Where;

SSD = Social sustainability disclosure. It was measured by a dummy variable of 1 if social information item is disclosed in the annual reports otherwise 0 (Menike, 2020).

FSIZE = Firm size. It was measured by logarithms of total assets (Ugbah *et al.*, 2022).

FPRT= Firm profitability. It was measured by the ratio of profit after tax to total assets over a specified period of time (Ibadin & Oladipupo, 2015).

FLEV = Firm leverage. It was measured by the ratio of total debt to total asset (Ali, *et al.*, 2018).

FGRT = Firm growth. It was measured by the % change in total sales (Culata & Gunarsih, 2012).

The presumptive signs of the parameters in the specifications are:

$$\beta_1, \beta_2, \beta_3, \beta_4, > 0$$

The above signifies the apriori expectation which shows a positive trend among the independent variable and brings about change in the dependent variables.

3.2 Method of Data Analysis

This study employed binary logistic regression is a technique that is used to the relationships with outcomes that are not measured on a continuous scale. The regression technique was used to test the relationship between the Y and Xs variables. Descriptive statistics and Pearson correlation matrix was also conducted.

4. Presentation and Interpretation of Results

4.1 Descriptive Statistics

The summary of the descriptive statistics used in the analysis is presented in the table below.

Table 4.1: Descriptive Statistics

	SSD	FSIZE	FPRT	FLEV	FGRT
Mean	0.801153	7.329164	4.397262	58.78847	283.1926
Median	1.000000	7.310000	4.210000	58.28000	9.470000
Maximum	1.000000	9.600000	108.9000	222.9700	18091.06
Minimum	0.000000	5.240000	-179.9200	4.280000	-100.0000
Std. Dev.	0.399709	0.946534	17.38636	25.13244	1847.201
Skewness	-1.509035	0.006512	-2.974452	1.536424	7.475184
Kurtosis	3.277187	2.290747	42.60128	10.17083	60.87327
Jarque-Bera	132.8082	7.275573	23186.11	879.9807	51657.15
Probability	0.000000	0.026311	0.000000	0.000000	0.000000
Sum	278.0000	2543.220	1525.850	20399.60	98267.84
Sum Sq. Dev.	55.27954	309.9909	104590.8	218547.2	1.18E+09
Observations	347	347	347	347	347

Source: EViews 9.0 Output (2026)

Table 4.1 indicates the mean which is the (average) for each of the variables alongside their standard deviations and normality test using Jarque-Bera (JB) statistics. Sustainability disclosure is proxied by social sustainability disclosure (SSD) on the average was 0.8011 and standard deviation of 0.3997. Firm size (FSIZE) has an

average value of 7.32 with a corresponding standard deviation of 0.9464. Firm profitability (FPRT) has an average value of 4.39 with a corresponding standard deviation value of 17.38. It was also observed that firm leverage (FLEV) has an average of 58.78 and a standard deviation value of 25.13. Firm growth (FGRT) has an average value of 300.57 with a corresponding standard deviation value of 1874.53. Lastly, the Jarque-Bera (JB) statistics showed that SSD, FSIZE, FPRT, FLEV, and FGRT were normally distributed with 347 statistical observations.

4.2 Correlation Analysis

The correlation analysis was used to measure the degree of correlation between the dependent variables and independent variables. The correlation result is presented in table 4.2 below.

Table 4.2: Correlation Analysis of Social sustainability Disclosure

	SSD	FSIZE	FPRT	FLEV	FGRT
SSD	1.0000	0.3417	0.1238	-0.2736	-0.1997
FSIZE	0.3417	1.0000	0.2348	-0.1736	-0.2805
FPRT	0.1238	0.2348	1.0000	-0.4996	-0.1293
FLEV	-0.2736	-0.1736	-0.4996	1.0000	0.4145
FGRT	-0.1997	-0.2805	-0.1293	0.4145	1.0000

Source: EViews 9.0 Output (2026)

It was observed from Table 4.2 above that firm size (FSIZE) was positively and moderately correlated with social sustainability disclosure (SSD= 0.3417). Firm profitability (FPRT) was positively and moderately correlated with social sustainability disclosure (SSD= 0.1238). In the case of firm leverage (FLEV), the variable was negatively and moderately correlated with sustainability disclosure (SSD= -0.2736) and firm growth (FGRT) was negatively and moderately correlated with social sustainability disclosure (SSD=-0.1997). Furthermore, to check for the possibility of multicollinearity problem, a Variance Inflation Factor (VIF) was conducted and the result is presented in table 4.3 below:

Table 4.3: Variance Inflation Factors

Variable	Uncentere		
	Coefficient d	Centered	
	Variance	VIF	VIF
C	0.029528	76.28505	NA
FSIZE	0.000493	69.50671	1.137035
FPRT	1.80E-06	1.493767	1.403718
FLEV	9.84E-07	10.38623	1.600979
FGRT	1.48E-10	1.334882	1.304142

Aggregate value Centered VIF = 1.3614

Source: EViews 9.0 Output (2026)

From table 4.3 above, it is shown that the mean VIF is 1.3614. It is however, the rule of VIF to place a benchmark mean of 10 for acceptance level. Hence it is assumed that any result that produces mean VIF above 10 has a case of high correlation of the independent variables. Since our result is 1.3614, which is far lesser than the acceptable level of 10, we conclude that there is no possibility of multicollinearity among the explanatory variables.

4.3 Test of Hypotheses

The binary regression result showing that sustainability disclosure proxied by social sustainability disclosure is presented in table 4.4 below:

Table 4.4: SSD Binary Logistic Regression

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.402266	0.772044	-3.111567	0.0019
FSIZE	0.617675	0.108033	5.717462	0.0000
FPRT	-0.009808	0.004951	-1.980801	0.0476
FLEV	-0.018000	0.004501	-3.999199	0.0001
FGRT	3.17E-05	5.33E-05	0.594820	0.5520
McFadden R-squared	0.183902	Mean dependent var		0.801153
S.D. dependent var	0.399709	S.E. of regression		0.361991
Akaike info criterion	0.842958	Sum squared resid		44.81478
Schwarz criterion	0.898424	Log likelihood		-141.2532
Hannan-Quinn criter.	0.865042	Deviance		282.5064
Restr. deviance	346.1674	Restr. log likelihood		-173.0837
LR statistic	63.66097	Avg. log likelihood		-0.407070
Prob(LR statistic)	0.000000			

Source: EViews 9.0 Output (2026)

Restatement of model specification

$$SSD_{it} = \beta_0(-2.40) + \beta_1 FSIZE_{(0.61)} + \beta_2 FPRT_{(-0.009)} + \beta_3 FLEV_{(-0.01)} + \beta_4 FGRT_{(3.17)} + e_t$$

It was discovered from the regression result that McFadden R^2 value of 0.1839 implies that about 18% of the proportion of variations in social sustainability disclosure was explained by independent variables. The remaining 82% implies other possible variables that contribute to social sustainability disclosure not captured in the study (capital intensity; firm age; firm liquidity). The LR-statistic (F-statistic) value of 63.6609 with probability value (0.0000) < 0.05 showed that the logistic regression fitted is valid, reliable, appropriate and acceptable for examining the relationship between the variables. Specifically, the results show that firm size (FSIZE) had a positive coefficient value of 0.6176 and a p-value of 0.0000. This means that firm size had a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria (SSD) at a p-value < 0.05 level of significance. This therefore implies that changes in firm size had the probability of increasing the level of social sustainability disclosure, but are statistically significant. Firm profitability (FPRT) had a negative coefficient value

of -0.0098 and a p-value of 0.0476. This means that firm profitability has a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria (SSD) at a p-value < 0.05 level of significance. The results also show that firm leverage (FLEV) had a negative coefficient value of -0.0300 and a p-value of 0.0001, indicating that firm leverage had a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria (SSD) at a p-value < 0.05 level of significance. This demonstrates that changes in firm leverage have the probability of reducing the level of sustainability disclosures but are statistically significant. Firm growth (FGRT) had a positive coefficient value of 3.17 and a p-value of 0.5520. This implies that firm growth has an insignificant effect on the social sustainability disclosure of listed manufacturing companies in Nigeria (SSD) at a p-value > 0.05 level of significance. Accordingly, changes in firm growth have the probability of enhancing the level of social sustainability disclosure, but are statistically insignificant.

Restatement of hypotheses

Hypothesis 1: Firm size has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

The result showed that firm size had a positive and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. Therefore, the null hypothesis is rejected that firm size has a significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

Hypothesis 2: Firm profitability has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

The result showed that firm profitability had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. Therefore, the null hypothesis is rejected that firm profitability has a significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

Hypothesis 3: Firm leverage has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

The result showed that firm leverage had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. Therefore, the null hypothesis is rejected that firm leverage has a significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

Hypothesis 4: Firm growth has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

The result showed that firm growth had a negative and an insignificant effect on social sustainability disclosure of the listed manufacturing companies in Nigeria at a p-value > 0.05 level of significance. Therefore, the null hypothesis is accepted that firm growth has no significant effect on social sustainability disclosure among listed manufacturing firms in Nigeria.

4.4 Discussion of Findings

The binary logistic regression results show that firm size had a positive and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. The result is consistent with the findings of Masila *et al.* (2024) that firm size has a significant positive moderation effect on the relationship between corporate sustainability reporting and financial performance. The result showed that firm profitability had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. This result aligns with the findings of Iliemena *et al.* (2023) while being inconsistent with the findings of Okoye *et al.* (2024) in Nigeria that sustainability disclosure and performance have insignificant relationship. The result showed that firm leverage had a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at a p-value < 0.05 level of significance. The result is consistent with the findings of Tatsuya (2022) that firm leverage has a positive and significant impact on social sustainability disclosure. The result however, conflicts with the findings of Kwarteng *et al.* (2023) that firm leverage has a positive but insignificant impact on sustainability performance. The result showed that firm growth had a negative and an insignificant effect on social sustainability disclosure of the listed manufacturing companies in Nigeria at a p-value > 0.05 level of significance. The result contradicts the findings of Abdulsalam and Babangida (2020) in Nigeria on the effect of sales and firm size on sustainability reporting that sales growth has a negative significant effect on sustainability reporting. The finding of Wang (2017) in Taiwan that firm growth has a significant positive relationship with the disclosure of social sustainability reporting.

5. Conclusion

The study empirically examined the effect of firm characteristics on social sustainability disclosure among listed manufacturing companies in Nigeria. Secondary data were collected from listed manufacturing companies in Nigeria for the period of 2014 to 2023. The data generated were analyzed using descriptive statistics, correlation analysis and OLS regression analysis. It was discovered that firm size has a positive and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05 level of significance, firm profitability has a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05 level of significance, firm leverage has a negative and a significant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value < 0.05 level of significance and firm growth has a positive and an insignificant effect on social sustainability disclosure of listed manufacturing companies in Nigeria at p-value > 0.05 level of significance.

5.1 Recommendations

Based on the findings of this study, it is recommended that:

- (i) Stakeholders of listed manufacturing companies in Nigeria should continue to expand the size of firms in order to increase the level of social sustainability disclosure.
- (ii) Since firm profitability is negative, a firm's management should ensure that there

is a profitability-driven strategy because it has the tendency of reducing the level of social sustainability disclosure among the listed manufacturing companies in Nigeria.

(iii) Given the significant and negative effect of firm leverage, stakeholders of the listed manufacturing companies in Nigeria should be cautioned against high leverage, as it has the propensity of reducing the level of social sustainability disclosure.

(iv) The management of the listed manufacturing companies in Nigeria should implement a sound growth strategy that would improve the level of social sustainability disclosure in the long run.

6. Contribution to future research

6.1 Contribution to Knowledge

This study contributes to the body of knowledge by discovering that:

- (i) Firm size is a firm characteristic variable that significantly improves the level of social sustainability disclosure.
- (ii) What adversely affect sustainability accounting disclosure in the Nigerian listed manufacturing companies among the variables considered in this study were firm profitability and firm leverage. These new findings show that firm profitability and firm leverage contribute negatively to social sustainability disclosure.
- (iii) Firm growth is not a driver of social sustainability disclosure among listed manufacturing companies.

6.2 Suggestions for further Studies

The study suggests that further studies on firm characteristics and sustainability accounting disclosure in Nigeria should sample the entire quoted non-financial companies in Nigeria Exchange Group (NGX).

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RESULTS

Descriptive Statistics

	SSD	FSIZE	FPRT	FLEV	FGRT
Mean	0.801153	7.329164	4.397262	58.78847	283.1926
Median	1.000000	7.310000	4.210000	58.28000	9.470000
Maximum	1.000000	9.600000	108.9000	222.9700	18091.06
Minimum	0.000000	5.240000	-179.9200	4.280000	-100.0000
Std. Dev.	0.399709	0.946534	17.38636	25.13244	1847.201
Skewness	-1.509035	0.006512	-2.974452	1.536424	7.475184
Kurtosis	3.277187	2.290747	42.60128	10.17083	60.87327
Jarque-Bera	132.8082	7.275573	23186.11	879.9807	51657.15
Probability	0.000000	0.026311	0.000000	0.000000	0.000000
Sum	278.0000	2543.220	1525.850	20399.60	98267.84
Sum Sq. Dev.	55.27954	309.9909	104590.8	218547.2	1.18E+09
Observations	347	347	347	347	347

SSD FSIZE FPRT FLEV FGRT

Correlation

SSD	1.000000	0.341792	0.123825	-0.273625	-0.199723
FSIZE	0.341792	1.000000	0.234814	-0.173600	-0.280577
FPRT	0.123825	0.234814	1.000000	-0.499658	-0.129346
FLEV	-0.273625	-0.173600	-0.499658	1.000000	0.414519
FGRT	-0.199723	-0.280577	-0.129346	0.414519	1.000000

Binary Regression results

Dependent Variable: SSD

Method: ML - Binary Probit (Newton-Raphson / Marquardt steps)

Date: 06/02/25 Time: 08:21

Sample: 1 350

Included observations: 347

Convergence achieved after 4 iterations

Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.402266	0.772044	-3.111567	0.0019
FSIZE	0.617675	0.108033	5.717462	0.0000
FPRT	-0.009808	0.004951	-1.980801	0.0476
FLEV	-0.018000	0.004501	-3.999199	0.0001
FGRT	3.17E-05	5.33E-05	0.594820	0.5520
McFadden R-squared	0.183902	Mean dependent var	0.801153	
S.D. dependent var	0.399709	S.E. of regression	0.361991	
Akaike info criterion	0.842958	Sum squared resid	44.81478	
Schwarz criterion	0.898424	Log likelihood	-141.2532	
Hannan-Quinn criter.	0.865042	Deviance	282.5064	
Restr. deviance	346.1674	Restr. log likelihood	-173.0837	
LR statistic	63.66097	Avg. log likelihood	-0.407070	
Prob(LR statistic)	0.000000			
Obs with Dep=0	69	Total obs	347	
Obs with Dep=1	278			

Variance Inflation Factors

Date: 06/02/25 Time: 08:22

Sample: 1 350

Included observations: 347

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.029528	76.28505	NA
FSIZE	0.000493	69.50671	1.137035
FPRT	1.80E-06	1.493767	1.403718
FLEV	9.84E-07	10.38623	1.600979
FGRT	1.48E-10	1.334882	1.304142